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QUALITATIVE STUDY

Basic Body Awareness Therapy for patients with stroke: Experiences among participating patients and physiotherapists

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KEYWORDS
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Summary *Background:* After a stroke many patients have muscle weakness, spasticity and compromised sensation leading to decreased postural stability. Basic Body Awareness Therapy includes slow movements that challenge postural control.
Aim: The aim was to describe experiences of 8 weeks of Basic Body Awareness Therapy from the perspective of both patients with stroke and physiotherapists.
Method: This study had a qualitative design. Twenty-one patients and four physiotherapists were interviewed. The interviews were analysed using manifest and latent content analysis.
Results: One overall theme emerged "Simple yet challenging" which was based on six categories: "Facing one's limitations", "Individualized movements", "A feeling of harmony", "Improved balance", "Integrated knowledge" and "Frustration and doubt". The patients described improvement in balance and stability, as well as increased wellbeing.
Conclusion: The patients and physiotherapists related that Basic Body Awareness Therapy challenges balance but also provides an opportunity to reflect on the body.

Introduction

Stroke is the leading cause of serious, long-term disability among adults (Pollock et al., 2014; WHO Task Force on Stroke and Other Cerebrovascular Disorders, 1989). Motor impairment with restrictions of muscular movements is seen in about 80% of stroke patients (Pollock et al., 2014).

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Cognitive deficits, compromised sensory function and spasticity are also common (Langhorne et al., 2009; Weerdesteyn et al., 2008). The hemiparesis may lead to reduced postural stability, asymmetrical stance, restricted walking balance and dependence in activities of daily living (Kamphuis et al., 2013; Pollock et al., 2011; Van de Port et al., 2006). Recognizing the body can be difficult after a stroke and, according to a qualitative study by Guidetti et al. (2007) some patients feel like strangers to themselves, with their life world feeling unfamiliar and their body different.

There is a growing interest in therapies designed to increase body awareness. Body awareness has been defined as the subjective, phenomenological aspects of proprioception and interoception that enters conscious awareness (Mehling et al., 2011).

Basic Body Awareness Therapy is a physiotherapeutic modality that though movements challenge a person's imitates of postural stability. In Basic Body Awareness Therapy the attention is both on the doing and on what is experienced in the movements, which in turns increase a self-awareness of physical and mental aspects of body awareness (Gyllensten et al., 2003; Roxendal, 1985).

A focus of Basic Body Awareness Therapy is to find a new attitude towards the body, thus strengthening the person's recourses, and integrating it in everyday life. A core movement is stimulation of the centre line through weight transfers from left to right, and rotation around the centre of the body. Basic Body Awareness Therapy may be conducted individually or in groups and is often led by a physiotherapist. The movements can be performed in sitting, standing or supine (Dropsy, 1988; Gyllensten et al., 2003; Roxendal, 1985).

Body awareness therapy has been used in studies including patients with eating disorders (Catalan-Matamoros et al., 2011), irritable bowel syndrome (Eriksson et al., 2007), and transfemoral amputees (Sjodahl et al., 2001). Reported positive effects are improved quality of life (Eriksson et al., 2007), body awareness attitudes (Catalan-Matamoros et al., 2011) and walking capacity (Sjodahl et al., 2001), as well as reduced pain (Gard, 2005). In two qualitative studies including patients with psychiatric disorders (Gyllensten et al., 2003; Hedlund and Gyllensten, 2010), experiences such as improved balance and stable posture, mental awareness and contact with their bodies were reported.

In a previous paper we presented the results of a randomized controlled trial (RCT) investigating the effects of an 8-week Basic Body Awareness Therapy programme held in groups once a week for stroke patients, compared with an untreated control group (Lindvall and Forsberg, 2014). We found no significant differences between the Basic Body Awareness intervention group and the control group over time, from baseline to follow-up at week 9 and 14. However, within the Basic Body Awareness Therapy group, significant improvements over time were found for tests of balance, functional mobility and walking distance (outcome measures were Bergs Balance Scale, Timed Up and Go Cognitive Test, and 6-minute walk test scores). Within the control group, significant improvements over time were found for tests of functional mobility and rising from a chair (Timed Up and Go Cognitive test, Timed-stands test).

Evaluation of stroke rehabilitation traditionally focuses on improvements in functioning and not so much on patients' experiences of a treatment. Professionals can view recovery in terms of improved functioning while recovery for patients might mean return to pre-stroke life (Dowswell et al., 2000). There may be some differences in physiotherapists' and patients' descriptions of characteristics of a physiotherapy session (Wohlin Wottrich et al., 2004). To get a fuller description of a period of Basic Body Awareness Therapy, we wanted to capture the experiences of the patients and physiotherapists involved in order to triangulate the experiences of the treatment process. Thus the aim of this study was to describe the experiences of an 8-week programme of Basic Body Awareness Therapy from the perspective of both patients with stroke, and physiotherapists.

Method

This study had a qualitative interview design. We interviewed patients and physiotherapist and performed qualitative analysis of both manifest and latent content (Graneheim and Lundman, 2004).

Participants

For the randomized controlled trial an information letter was sent to 69 patients and after 1 week the first author (M.L.A.L.) contacted each patient by telephone and provided verbal information about the study. Forty-six patients were included in the randomized trial, of which 24 were allocated to the Basic Body Awareness Therapy intervention. A total of 21 patients completed the intervention and follow-up tests at week 9 and 14.

The patients in the randomized controlled trial consisted of a convenience sample of patients diagnosed with stroke from four primary health care centres (Lindvall and Forsberg, 2014). Inclusion criteria were: more than 6 months since onset of the most recent stroke, ability to walk a distance of 100 m with or without assistance, and subjectively experienced balance impairment. Exclusion criteria were having medical, physical or -cognitive impairment that affected the ability to actively participate in the intervention or to understand written and verbal instructions.

All the 21 patients who completed the Basic Body Awareness Therapy intervention were invited by mail and agreed to be interviewed, ten women and eleven men, with mean age 62, (range 42—80) years. Thirteen patients had a cerebral infarction and eight a cerebral haemorrhage. Eleven patients had right-side and ten had left side hemiparesis. One of the patients had previous stroke. When walking, four patients used bilateral walking aids and ten used unilateral walking aids.

Four physiotherapists (all women), one at each primary health care centre led each one Basic Body Awareness Therapy programme in the intervention. They were formally educated in Basic Body Awareness Therapy at a minimum level of step B, according to the education levels at the Swedish institute for Basic Body Awareness Therapy (Institutet för Basalkroppskännedom). The education levels

are, basic; A-C, and advanced; D-E. They had between 15 and 20 years of clinical experience working with the method.

Intervention

The Basic Body Awareness Therapy was performed in groups at the four primary health care centres. The sessions lasted 1.5 h, and were held once a week for 8 weeks. To reach homogeneity in the intervention, the structure and content of the therapy were decided by the researchers and the physiotherapists together before the intervention started, based on previous studies of Basic Body Awareness Therapy (Catalan-Matamoros et al., 2011; Dropsy, 1988; Roxendal, 1985).

The sessions started and ended with the patients sitting on a chair and together with the physiotherapist reflecting on the expectations, experiences and movements. During the sessions, movements were performed in supine, sitting and/or standing position, with focus on both performing the exercises and what was experienced during the movements. The stability limits were explored by shifting the weight forward, backward, left and right until feeling that you are in balance. All movements were repeatedly performed at a slow pace. The patients wore comfortable clothing and no shoes. The intervention has presented in detail elsewhere (Lindvall and Forsberg, 2014).

Data collection

Semi-structured interviews were conducted from December 2011 to January 2013. To assure internal consistency the first author (M.L.A.L.) conducted all the interviews. Individual interviews with the patients took place at the patients' respective health care centre about 1 week after the intervention ended. An interview guide was used, covering experiences of changes in the body, balance and daily living, as well as reflections on the structure and content of the intervention. These interviews lasted between 10 and 40 min. For practical reason the interviews with the four physiotherapists were conducted in pairs. These interviews, which lasted approximately 1.5 h each, were performed at a research centre and conducted together by two of the researchers (A.F. and M.L.A.L.). The same interview guide as used for the patient interviews was used for the therapists. All interviews were tape-recorded digitally and transcribed verbatim. Participants were asked to sign a written consent. The study was approved by the Regional Ethical Review Board, Uppsala, Sweden (2011/085).

Data analysis

A qualitative content analysis was performed using an inductive approach. We conducted both manifest and latent content analysis (Graneheim and Lundman, 2004). The analysis was performed in the following steps:

Manifest analysis: (interpretation close to the text)

1. The text was read through and listened to several times by the authors.
2. Meaning units were identified.
3. Each meaning unit was condensed and labelled with a code, still preserving the core meaning.
4. The codes were sorted and abstracted in to preliminary categories, illustrating the manifest content of the data. Up to this step the transcripts of the patients' and physiotherapists' interviews were separately analysed.
5. The preliminary categories identified from the analyses of the physiotherapists' and patients' interviews were merged, based on common content, and abstracted into six categories (Table 1).

Latent analysis: (interpretation of the underlying meaning)

6. The categories were reflected on, discussed, and either changed or retained. The aim was to identify and formulate an underlying theme combining the parts into a whole.

To support trustworthiness throughout the analysis procedure, the results was discussed and reflected up on by the three authors (M.L.A.L., A.A.C. and A.F.) in a back and forth process. A few quotations were chosen to illustrate the categories presented in the findings.

Findings

The patients commented that to be part of a group with other people who had suffered stroke provided an opportunity to meet others with similar problems. The physiotherapists likewise experienced a fellowship in the groups. Both patients and physiotherapists expressed that Basic Body Awareness Therapy once a week was enough, but that an 8-week intervention period was too short.

In the following, the patients' and the physiotherapists' experiences are jointly presented, and similarities and differences highlighted. The overall theme, "*Simple yet challenging*", emerged from the latent content analysis of the six categories (Table 1).

The word "simple" describes small movements and simple exercises which everyone was able to participate in, regardless of functional status. "Simple" also illustrates the fact that no specific equipment was needed. On the other hand, it was "challenging" for the patients who had physical impairments post-stroke, to face their limitations when performing the balance movements. It was also a challenge to sense, and contemplate on their bodies, and to mentally concentrate and stay focused. The physiotherapists regarded it as challenging to adjust the Basic Body Awareness Therapy to the specific patients' specific impairments after stroke, such as spasticity and sensory loss.

Facing one's limitations

The patients described how the Basic Body Awareness Therapy forced them to face their individual limitations related to stroke. One such limitation, which both the physiotherapists and the patients mentioned, was related to mental concentration. The physiotherapists observed that the patients periodically struggled to stay focused and

Table 1 Overview of theme and categories.

Theme	Simple yet challenging					
Categories	Facing one's limitations	Individualized movements	A feeling of harmony	Improved balance	Integrated knowledge	Frustration and doubt

that they had a hard time being vocally quiet. However, this improved during the intervention period. The movements were experienced as small and quite simple; still, participants needed their full mental concentration to be able to sense their entire body. The movements and concentration resulted in unexpected fatigue and for some, also in muscle soreness. The movements forced them to become aware of unused muscles by putting weight on both body halves and finding the centre of the body.

> *At first, it really knocked you out…'cause you had to use your head so much — you were forced to think. Afterwards, your brain was just fried. I was incredibly tired, so sometimes I slept as soon as I got home. One exercise for keeping your balance was a real bitch. That was really good. I needed it, apparently. It was tough. You had to find them so you could do them. From your head down to whatever you were supposed to touch. And Oh God, did I ever have sore muscles the first time! (Patient No 12)*

Facing one's limitations due to stroke deficits could also lead to emotions such as grief and uncertainty. It was positive, yet challenging, to perceive the whole body. Some patients thought it was emotionally difficult to put weight on the weak side and become aware of the disparities within the body. According to the physiotherapists, the participants seemed to experience a new awareness of their body, and this was both a positive and a negative experience.

> *'…Also, I think it's been very emotional — the fact that they actually see these different halves of their body. It becomes so obvious, since we focus so much on the midline…that that also led to some sadness. That it's hard to do deal with that… that the two halves of one's body are so different and that one is sick… (Physiotherapist)*

Some patients were frustrated at not being able to sense various parts of the body due to stroke deficits and the physiotherapists thought it was a challenge to meet these frustrations related to sensory loss. However, the physiotherapists said that they had stressed that the most important thing was to participate in the sessions and to try to focus on resources and not on limitations.

Individualized movements

Several of the patients said that there had been room for individual advice and adjustments despite the structure being that of a group intervention. Others were impressed that the small movements integrated the whole body, and said that everybody had been able to participate, regardless of functional status. The physiotherapists also mentioned that they had tried finding individual solutions and personalizing support. If at any time a patient had been unable to perform a particular movement or position, such as coming up from the floor or standing for a long time, they had suggested using aids such as a cane or chair. The physiotherapists also adjusted the exercises according to each the patient's needs. Nevertheless, at times the physiotherapists experienced it as challenging to adapt the movements to the manifestations of stroke:

> *'…'cause then I tried to change the instructions and the movements to sort of make them much faster, and that was better for him with his spasticity' (Physiotherapist)*

Despite differences in function, the individualized way of integrating everybody in the group was regarded as worthwhile by the patients. Some patients were doubtful as to their ability to participate, but after guidance and after themselves making an attempt they were amazed that these small simple movements integrated the whole body and it was possible to perform them also for those with reduced functionality.

> *…that [the leisurely tempo and the simple movements] was what meant everyone could participate. …it doesn't all have to be so rushed…it doesn't have to be jerky — you can take it easy…only do what you're able to do… because it's so much, the worst thing is when you can't do anything — that's when you get…you lose your motivation if you see you're not able to do some things properly' (Patient No.10)*

A feeling of harmony

Almost all the patients reported that the Basic Body Awareness Therapy left them with a general positive feeling and with an increased sense of well-being and peacefulness in their bodies. Some patients though that the good feeling came from an increased presence in their body and awareness of their breathing, which was also observed by the physiotherapists. Some expressed that they had found new muscles, and that the small movements engaging the whole body gave new energy, increased patience, and peacefulness.

> *…you felt good after that…I felt I had acquired a sense of inner calm…the fact that you somehow achieve a different kind of calm. At first, the training left you mentally exhausted but physically not so tired. (Patient No. 12)*

The physiotherapists agreed with the patients regarding the patients' wellbeing and peacefulness. They had observed reduced tension in the patients, as well as new experiences of connecting with the body and the

environment: *'...it [the intervention] gave them something...one of the participants said she got such a strong feeling of calm throughout her body that it lasted the entire day. You could see it on her, too...calm and relaxed...' (Physiotherapist)*

Improved balance

Improved balance in the body was reported by both patients and physiotherapists. Some patients reported less use of walking aids and several said that after the intervention they were able to walk longer distances, and with better posture. Improved balance could lead to increased self-confidence, an example of which was daring to walk in open spaces with no support. These patients described how they trusted their weak side better after the Basic Body Awareness Therapy and said that they had become more aware of their limitations of stability. They perceived themselves as steadier, with increased endurance, and described how they were able to participate more in daily household work. In sitting, some patients had detected the centre-line of their body through movements such as pushing one foot at a time against the floor. Some patients described having found an improved and more relaxed sitting position with the centre line in focus.

...No doubt it was just the fact that you were sitting in a chair. That you were sitting better than you did in the place you sat before...you sat in an ordinary chair — not on the sofa... ...and rest while sitting. (Patient No. 7)

The physiotherapists confirmed the patients' improved balance as follows:

...there was one man... he said he could sit— sit in a corrected, balanced way, that is — and then he discovered he could sit at home at his computer and work without it becoming extremely uncomfortable. (Physiotherapist)

Integrated knowledge

Both the physiotherapists and the patients expressed that the movements and the way of thinking in Basic Body Awareness Therapy were of use in everyday life. Several patients made use of the movements in their daily life, such as using the weight shifting movements to put stress on both sides of the body. They perceived these movements as reducing spasticity and also as increasing awareness of their own stability limitations in standing and walking. The posture strategy was useful in their regular training, when working, as well as when relaxing.

...I think it's an excellent complement [to regular training]...certain things that I feel are clearly going to be useful to me at home...Not all of the exercises, but...the thing about walking...when I walk, how I should hold myself so that I can...relax and feel, how can I say this, the weight or the balance, if you can call it that...just the bit about...how I should position my body — how straight I am, if I am straight, left and right sides...I try to equalize the pressure on each side, if I can put it that way. Because it's often been one side that has had to bear most of the load. (Patient No. 21).

Some patients said that it was difficult to integrate the movements due to memory- and motivation loss. A few patients described that they were aware of their body in every movement and said that it had started to play a large part in daily living.

...It was almost a mania. As soon as I did something, I'd wonder 'Where's my midline? Where's the bottom of my foot? Where's my heel? Where's my hand?...(Patient No. 10)

The physiotherapists had noticed the integrated changes and the improvements in walking, sitting and standing. They described how the patients' concentration and ability to stay focused for longer times had improved over times and had sometimes reportedly become integrated in the patients' everyday life. They also noted that the weight shifting movements were helpful in reducing spasticity.

'...he found he could concentrate, he could use [the exercises] in his daily life to reduce his spasticity...'(Physiotherapist)

Frustration and doubt

Although many positive experiences were described by the patients, there were also feelings of frustration and doubt related to the Basic Body Awareness Therapy. Some expressed uncertainty as to whether it was the Basic Body Awareness Therapy itself or something else that had caused the positive changes in their bodies. The exercises were not experienced as hard enough. The movements, the tempo and the way of reflecting on the Basic Body Awareness Therapy awareness therapy were perceived as too different from their usual training. A few patients therefore experienced the sessions as boring and strange. *'I'm not exactly getting any better from this...it's a pretty strange kind of training if you ask me. I don't think it has much to offer...'(Patient No. 15).*

Almost all patients had difficulty staying focused and sometimes patients disturbed the concentration of others by chatter. The physiotherapists described the challenge of keeping the group together, saying that it had sometimes been difficult to reach some of the patients because of lack of concentration on the patients' part. They also felt that some patients had hidden behind their symptoms.

'OK, but I can tell you they hide behind their symptoms because they do want — as stroke patients perhaps, but it's true for any patient — they do want to know 'Can this exercise really give me better hand or leg functioning?', and they want to know why...'(Physiotherapist)

Discussion

The theme "Simple yet challenging" illustrates that the movements were perceived as small and simple, and therefore possible for everyone to participate in, regardless

of functional status. Some even regarded them as too simple. Challenges described by both patients and physiotherapists included that the patients had to face their limitations, e.g. hemiparesis, sensory loss and spasticity, while performing the movements and also, that the therapy required concentration. A physiotherapy session can be perceived in different ways (Wohlin Wottrich et al., 2004) but in this study we found commonalities between the patients' and physiotherapists' experiences. Frequently the physiotherapists' experiences were in line with the patients' narratives. Central to this study were the expressions of improvements in balance and stability. The patients described the ability to walk longer distances, as well as improved feelings of stability and improved confidence in sitting and standing. They described greater confidence in performing everyday activities, e.g. when vacuum cleaning and walking in open spaces.

Along with the improvements in balance and stability, the patients reported feelings of harmony, and a sense of well-being and peacefulness. They felt that the positive good feeling stayed with them after the sessions and had an impact on their life. Some patients expressed after a session of Basic Body Awareness Therapy, their bodies felt heavy in a positive and relaxed way, alert and relaxed at the same time. Similar findings from both patients and physiotherapists have been reported by Hedlund and Gyllensten (2010, 2013) who studied experiences of Basic Body Awareness Therapy in a population of persons with schizophrenia. Feeling calmer and relaxed has also been reported in stroke patients participating in yoga (Garrett et al., 2011). Yoga is similar to Basic Body Awareness Therapy in that it focuses on postural control and mental awareness (Field, 2011). The importance of such positive outcomes should not be underestimated, as the post-stroke phase can be regarded as challenging for the patient with stroke.

Of particular significance for the patients were the experiences that these small, simple movements could have an impact on their body as a whole, which is in line with the theory of body awareness (Dropsy, 1988; Roxendal, 1985). The slow pace and the simple movements provided an opportunity to reflect on the body and made it possible for the patients to explore both sides of their body. They deeply appreciated this. They were able to perform the movements and perceived this as an achievement. Other studies (Guidetti et al., 2007; Wohlin Wottrich et al., 2004) have also highlighted the importance of achievement and success when training the body after stroke. From this point of view, the Basic Body Awareness Therapy in this study can be seen as beneficial for most of the patients. The feeling of succeeding and the perceived possibility to explore both sides of the body may have had a positive influence on the patients' experience of improved balance. Nevertheless, it should be borne in mind that not everyone enjoyed the simple exercises.

The movements in Basic Body Awareness Therapy were experienced as small and simple, but they required concentration because of their challenging body and mind activities. Mental concentration was regarded as important, yet it was challenging. This can be related to stroke itself, as impaired concentration is a neurological deficit resulting from stroke. Balance, too, appears to be more attention-demanding after stroke (Langhorne et al., 2009). The patients believed that it was a challenge to be focused and work through the mind, by thinking of and observing the body and being aware of both sides of the body. Also the physiotherapists likewise felt that the patients had struggled with concentration; however they felt that as the intervention progressed, the patients' concentration had improved. In Basic Body Awareness Therapy, the patient has to listen to the body by turning attention to both doing and what is experienced by the body (Gyllensten et al., 2003). Body and mind simultaneously work together, which explains why stroke patients have to face limitations like sensory loss combined with weakness. The improvement in mental concentration may have a contributory, positive effect on the improved feelings of awareness and connection with the body.

Another limitation connected to stroke is spasticity. In Basic Body Awareness Therapy it is central to find the centre line of the body (Dropsy, 1988) by performing different movements like weight shifting and rotations, together with giving attention to the body. For some patients, these movements, together with a new awareness of the body, led to experiences of reduced spasticity. This was mentioned by both the patients and the physiotherapists. Taken together, Basic Body Awareness Therapy with body and mind exercises were perceived as challenging, yet they were described as having a positive impact on the perception of the body as a whole, with improved mental concentration and reduced spasticity.

Basic Body Awareness Therapy was a new experience for the patients. The physiotherapists and almost all of the patients found it to be a positive experience. There were some patients who were doubtful or who would have preferred physically more challenging exercises. As the recovery after stoke is life-long and, further, as recognizing the body can be difficult (Guidetti et al., 2007; Langhorne et al., 2011), rehabilitation interventions that help the persons return to an independent and meaningful life are important. Physiotherapy interventions after a stroke largely focus on improving mobility, walking and balance (Pollock et al., 2014). The present study has presented a complementary therapy with other beneficial outcomes, such as harmony, but also with positive traditional outcomes such as improved balance and mobility. It is important to keep in mind that one therapy is not suitable for, or acceptable to everyone and that rehabilitation needs to be individualized. Basic Body Awareness Therapy may be useful as a complementary therapy in stroke rehabilitation. As this was just a small study with 21 patients, further research is needed to evaluate the feasibility of routinely using Basic Body Awareness Therapy in stroke rehabilitation.

Credibility, dependability and transferability

As the focus of this study was to explore the experiences of Basic Body Awareness Therapy for both patients with stroke and the physiotherapists involved, the qualitative design was found to be adequate. A strength of the study was that all participants, regardless of deficits after stroke, had the opportunity to participate in the interview. All interviews

were performed shortly after the intervention and an interview guide was used, which has increased the dependability and credibility of the study. During the data analysis, all authors were involved in the various steps. Two of the authors (M.L.A.L., A.F.) have a pre-understanding as physiotherapists in stroke rehabilitation. Both also have some knowledge in the area of Basic Body Awareness Therapy. The third researcher (A.A.C.) has another professional background, which increases the credibility of the findings. Nevertheless the generally positive results can be related to the fact that the patients had volunteered to participate in the intervention and were therefore motivated to improve their function.

Conclusion

According to the patients' and physiotherapists' narratives, the 8-week intervention using Basic Body Awareness Therapy resulted in improvements in balance during walking, standing and sitting, as well as in a feeling of harmony. Moreover, the study shows that it is possible to integrate the movements in daily life. Basic Body Awareness Therapy may therefore be a useful complementary therapy in stroke rehabilitation.

Conflict of interest statement

The authors declare that there is no conflict of interest.

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